

### REMARKS/ARGUMENTS

Claims 1, 5 and 8–10 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Scott “Sludge characteristics and disposal alternatives for the pulp and paper industry” in view of Miyabe 4,977,943.

According to the Office Action, Miyabe discloses waste paper is undergoing heat recovery treatment.

Miyabe is similar to Lee, cited in the last Office Action, in that the raw material to the mill is being treated with exhaust gas.

The raw material in the Miyabe process is waste office paper which has been printed with ink. The first step in the process of making pulp for the mill is to separate the ink, adhesive, resin and the like from the fiber. The fiber and dissolving slurry flows downwardly in the tower and is agitated by the gases flowing upwardly through the tower. The pulp fiber coming from the deinking operation is then used to make paper.

The so-called “waste paper” in the Miyabe process is not the waste from a pulping operation, it is the raw material to a pulping operation. The exhaust gases are not being used to dry the waste paper, they are being used to remove the ink and other materials from the waste paper, to bleach the pulp fiber and to neutralize the treating solvent.

Miyabe does not disclose drying. The exhaust gases in Miyabe are being used at the beginning of the pulping process for agitation in the treatment of the pulp raw material. Drying is not mentioned. The fibers remain in slurry throughout this process.

The combination of Miyabe with Scott et al does not disclose drying the waste material of Scott et al with heat from the pulping process. It discloses, at best, deinking the recycled raw material fiber of Scott et al with exhaust gas prior to forming paper. It does not disclose treatment of the waste material from the Scott process.

According to the Office Action, Figure 1 of Scott *et al.* discloses a process in which the waste material generated by virgin fiber is sent for treatment. Figure 1 does not designate the material going into the mill to be virgin fiber. It designates it as raw material. On pages 270-271 the raw material can be recycled paper and newspaper. These are not virgin fibers. Scott does not say whether virgin fiber or recycled fiber or a blend of the two should be used. The disclosure of Miyabe would relate, at best, to deinking the recycled paper and newspaper of Scott prior to its being formed into paper.

Scott *et al.* make the statement that dried sludge could be used as bedding material for cattle and rely on three sources for this statement.

One source is Paul S. Weigand and Jay P. Unwin, *Tappi Journal*, "Alternate management of pulp and paper industry solid wastes, 77(4): 91–97 (1994). A copy of this article has been provided previously.

Wiegand *et al.* state that sludge pellets can be used as kitty litter or animal bedding. A pellet is not an animal bedding fiber agglomeration that retains its bulk, fibrous structure or appearance. Wiegand *et al.* does not disclose the present inventions..

Another source is T. R. Aspiro *et al.*, *Methods for pulp and paper mill sludge utilization and disposal*, Environmental Protection Technology Series, Washington. Copies of the pertinent pages from this monograph were provided previously.

The monograph describes tests done at the Camas, Washington, Crown Zellerbach mill. Three systems are described.

The first system is shown in Figure 3 and described on pages 15 and 19 of the monograph. The sludge runs through a press which expels liquid to increase the solids content to 37–40%. The press cake is transported to a fluff, a hammer mill, which breaks up the sludge filter cake. The sludge is then dropped into the hot gas stream from the incinerator and carried up through the dryer. The dried sludge and gas are separated in a cyclone. The gas is scrubbed and discharged to the atmosphere. The dried sludge at 75–89% solids is carried to the incinerator and burned. This system uses the incinerator gases for drying the sludge so it appears that this system is used only when the incinerator is used. The end product is not dried sludge but burned sludge.

The second system is shown in Figure 4 and described in the first two full paragraphs on page 19. In this system the sludge is pressed and fluffed only. It is not dried in the dryer. In the trials, the first system was modified by removing the flange under the fluffer and dropping the sludge onto a conveyor belt to take the sludge to a dump truck for transport to the site of use. Most of the sludge for the experimental farm and burning trials was obtained in this way. The end product is a partially dewatered but not dried sludge. It would be at 37–40% solids, the solids content from the press. The system does not use recovered heat from a pulping process to dry the sludge. It appears that this is the sludge that was used for the cattle bedding studies.

The third system is shown in Figure 5 and described in the third full paragraph on page 19. This system was used for a short time only. The sludge is pressed and fluffed as before. The fluffed pulp is dried using a gas as a fuel. This system does not use recovered heat from a pulping process to dry the sludge.

Aspiro *et al.* does not disclose the present invention.

I have been unable to locate the third source, an article by the Progress in paper recycling staff: *Progress in Paper Recycling*, "Utilization of Mill Residues (sludges)". 3(1): 64–70 (1993). It would be appreciated if the Examiner would forward a copy of this article so it can be determined whether the article is pertinent to the present application. The other two are not pertinent to the present application and since the third source is a survey it is probable that it is not pertinent either.

A *prima facie* case has not been made as to claims 1, 5, and 8–10.

Claims 2–4 and 12–16 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Scott *et al.* in view of Miyabe further in view of Sugarman *et al.* 2,708,418. Sugarman has been cited for the use of sodium silicate in poultry bedding.

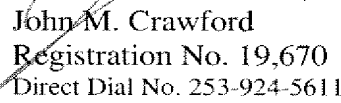
The combination of Sugarman *et al.* with Scott *et al.* and Miyabe does not overcome the deficiencies of Scott *et al.* and Miyabe noted above.

A *prima facie* case has not been made as to claims 2–4 and 12–16.

**CONCLUSION**

Reconsideration and allowance of the claims presently in the application is respectfully requested.

Respectfully submitted,  
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